



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,235	10/16/2003	Dwip N. Banerjee	AUS920030730US1	9430
43307	7590	10/17/2007	EXAMINER	
IBM CORP (AP)			CLOUD, JOIYA M	
C/O AMY PATTILLO			ART UNIT	PAPER NUMBER
P. O. BOX 161327			2144	
AUSTIN, TX 78716				
MAIL DATE		DELIVERY MODE		
10/17/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/687,235	BANERJEE ET AL.
	Examiner Joiya M. Cloud	Art Unit 2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 August 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3-8, 10-15 and 17-23 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1, 3-8, 10-15, and 17-23 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10/16/2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. This action is responsive to communications 08/06/2007. Claims 2, 9, and 16 are canceled. Claims 1, 3-8, 10-15, and 17-23 are presented for examination.
2. Applicant's arguments and amendments filed 03/19/2007 are deemed moot in view of the following new grounds of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., "enabling a network adapter at a computer system to control a flow of a plurality of data packet segments over a bus system...buffering a first data packet segment from a single connection") and will require further search and consideration to the claims which significantly affected the scope thereof.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-8, 10-15, and 17-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Muller et al. (U.S. Patent No. 6,480,489 B1, hereinafter Muller).

As per claim 1, Muller teaches a method for efficient packet desegmentation on a network adapter, comprising: enabling a network adapter (Figure 1A, where the network adapter is the NIC (network interface circuit) at a computer system to control a flow of a plurality of data packet segments over a bus system to a network protocol stack (TCP/IP stack) running at the computer system in each of individual packet segments and desegmented groups of packet segments (page 7, lines 38-58, page 8, lines 56-67, and page 50, lines 60-67), wherein each of said plurality of data packet segments is separately received by said network adapter from a network over a plurality of separate connections to a plurality of separate other computer systems, wherein each of said plurality of separate connections is identified by a separate selection of addresses and ports (page 7, lines 38-58 and page 102, lines 10-23); buffering a first data packet segment from a single connection from among said plurality of separate connections in the network adapter; responsive to detecting at least one next data packet segment from said single connection, buffering the at least one next data packet segment received at said network adapter from said single connection, wherein said single connection is identified by a matching plurality of addresses and ports extracted from each header of each of said first data packet segment and said at least one next data packet segment and responsive to detecting a buffering release condition (page 8, lines 56-67 and page 54, lines 51-64), releasing said selection of said plurality of data packet segments from said network adapter in a single traversal over said bus system flagged as a desegmented group to said network protocol stack for

processing flagged desegmented groups of data packet segments together (**page 55, lines 48-60 and lines 65-67**), such that data packet segments received from said single connection are efficiently passed to said network stack to be processed together by said network protocol stack (**page 55, lines 11-24**).

As per claim 3, Muller teaches a method for efficient packet desegmentation wherein said single connection is a TCP connection identified by a four-tuple of source and destination addresses and ports extracted from each TCP header of each of said plurality of data packet segments (**page 21, lines 13-23 and page 9, lines 47-55**).

As per claim 4, Muller teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when a new data packet segment received at said network adapter is from a different connection than said single connection (**page 8, lines 56-67 and page 72, lines 1-21**).

As per claim 5, Muller teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when a time a first receiving data packet segment from among said plurality of data packet segments is buffered at said network adapter exceeds a time threshold (**page 106, lines 8-17**).

As per claim 6, Muller teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when a queue size limit in said network adapter for buffering data packet segments is reached (**page 102, lines 58-67 and page 103, lines 1-2**).

As per claim 7, Muller teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when an abnormal condition occurs, wherein said abnormal condition is at least one from among a checksum mismatch, a connection reset, an urgent pointer, and a missing packet being detected (**page 11, lines 8-25 and page 53, lines 5-19**).

As per claim 21, Muller teaches a method further comprising responsive to receiving said flagged data packet segments together at said network protocol stack, processing said flagged data packet segments together by only executing an incoming packet processing code executed for each incoming data packet segment once for said flagged data packet segments, by only performing a direct memory access performed for transferring each packet segment to a memory block once for said flagged data packet segments, and by only performing a protocol control block search to detect a connection status for the connection of each data packet segment once for detecting a status of said single connection of said flagged data packet segments (**page 66, lines 66-page 67, lines 29**).

As per claims 8, 10-14, and 22, claims 8, 10-14, and 22 are substantially the same as claims 1,3-7 and 21 but in system form rather than method form. Therefore the rejection for claims 1,3-7, and 21 applies equally as well to claims 8, 10-14, and 22.

As per claims 15, 17-20, and 23, claims 15, 17-10, and 23 are substantially the same as claims 1, 4-7, and 21 but in computer program product form rather than method form. Therefore the rejection for claims 1, 4-7, and 21 applies equally as well to claims 15, 17-20, and 23.

CONCLUSION

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joiya Cloud whose telephone number is 571-270-1146. The examiner can normally be reached Monday to Friday from on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3922. Information regarding the status of an application may be obtained from the Patent Application Information

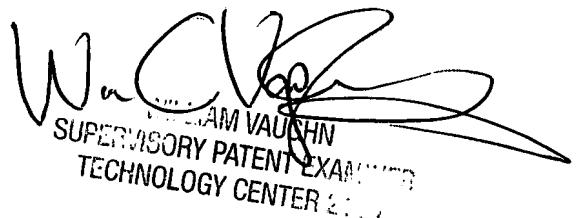
Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMC

William J. Vaughn

Supervisory Patent Examiner

October 10, 2007



WILLIAM J. VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2144